EXECUTIVE SUMMARY

AN EVALUATION OF FOOD STAMP AND AFDC WAGE MATCHING TECHNIQUES

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Introduction

It is well known that the largest single source of welfare program overpayments is the underreporting and, in some instances, total nonreporting of earnings by program participants. Concern over program errors of this type has led to development of earnings validation systems that computer match welfare recipients' self-reported earnings against employer payroll records. The conduct of wage matching has been Congressionally mandated for the Aid to Families with Dependent Children (AFDC) Program since October 1979 and for the Food Stamp Program since January 1983.

Wage matching is a three component process in which each step leads to the correction of income underreporting. These are:

- Initial match and followup, which results in the reduction or termination of benefits to active cases.
- Restitution, or the collection of prior overpayments; and
- Prosecution of fraud, which can deter underreporting of income.

The three components can be viewed as a funnel where all cases are included at the initial match and each subsequent part of the process screens out more and more cases as errors are identified and actions taken to correct them.

This paper summarizes the second of two reports that examine wage matching systems. The first report[1] described the major steps required by wage matching, discussed the advantages and disadvantages of alternative procedures and techniques of wage matching, and indicated various technical and administrative challenges in managing wage matching systems. This report presents the results of four case studies analysing the costs and benefits of wage matching systems operated in Camden County, New Jersey; Mercer County, New Jersey; San Joaquin County, California; and the State of New Hampshire. A summary of important site characteristics is provided in Table 1. Note the mix of programs covered: one site matched only non-public assistance cases, another only public assistance cases, and the remaining two matched both.

These sites were selected on the basis of:

- variation in administrative organization and operation,
- efficiency of design and operations, and
- availability of cost and benefit data.

Despite the careful screening, much of the data necessary for the cost benefit analyses was not available in each site and had to be developed during the course of the analysis.

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[1] David Greenberg and Jennifer Pfiester: "Wage Matching Techniques Used in Administering the Food Stamp and AFDC Programs: An Interim Analysis, "October 1982, revised February 1983.

TABLE 1

SELECTED CHARACTERISTICS OF THE WAGE MATCHING SITES

	Camden County	Mercer County	San Joaquin County	State of New Hampshire
State or County System	COUNTY	COUNTY	COUNTY	STATE
Cases Subject to Match	20,798	12,549	14,770	9,247
Programs Covered	Food Stamps and AFDC	Food Stamps and AFDC	AFDC-including PA food stamp cases	NPA Cases only
Maturity of System	Since 1981	Since 1981	Since 1981	Since 1981
Source of Employer Data	State Division of Taxation	State Division of Taxation	State Department of Employment Security	State Department of Employment Security
Initial Screening	Regular EWS	Fraud Invest. Unit	Fraud Invest. Unit	Special Project Team
Screening Thresholds	1) Open Cases only 2) Only cases with a discrepancy in excess of $100 between client[2] and employer reported earnings for match quarter	Same as Camden	1) Open Cases only 2) Only Cases with DES earnings exceeding $900 per quarter	1) Open and Closed 2) Must meet one of the following: a) DES earnings positive-client earning[3] negative b) discrepancy in excess of $400 per quarter and client on for all 3 months c) discrepancy in excess of $1,000 and client on for 2 of 3 months
Dollar Level at Which Fraud Cases are Prosecuted	$2,000	$3,000	$500	Varies-typically over $1,000

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[1] Results are for a Special NPA match conducted in 1982; all characteristics apply to regular matching.

[2] Client earnings are only for last month of quarter.

[3] Client earnings for all 3 months of quarter used.

ANALYSIS TECHNIQUES AND CAVEATS

Measurement of Costs and Benefits

The study takes a conservative approach in measuring costs and benefits. There are four basic types of wage match benefits (shown in Table 2):

- Restitution: from repayment of prior overpayments discovered through wage matching.
- Disqualifications: persons who have deliberately underreported their earnings are prohibited from receiving benefits for specified periods of time.
- Terminations and Benefit Reductions: from active cases that are currently receiving overpayments. Terminations prevent future overpayments as well as save administrative costs.
- Behavior and Attitude Changes: from clients, welfare agency staff, and the general public, from matching's deterrence effect; i.e., its capacity to increase the probability of discovery and punishment of recipient underreporting and thus discourage some recipients from misreporting.

The measure of total benefits does not incorporate estimates of several potentially large benefit components which could not be measured accurately These include deterrence effects and positive impacts of wage matching on the attitudes of welfare recipients, welfare agency personnel, and the general public. Thus, the measure systematically understates the actual benefits of wage matching.

On the other hand, costs should be neither understated nor overstated in any systematic fashion. The costs of wage matching are simply government expenditures on resources required to

TABLE 2

A COST-BENEFIT ACCOUNT FOR WAGE MATCHING FROM THE GOVERNMENT'S POINT OF VIEW

BENEFITS	COSTS
Restitution of previous overpayments	Personnel Costs (salaries and fringe benefits)
Savings from Food Stamp disqualifications	a. Income maintenance staff
	b. Fraud investigative staff
	c. District Attorney staff
Savings from benefit reductions and discontinuances	d. Other
	Materials and facilities costs
a. Prevented future overpayments	a. Computers
b. Administrative savings	b. Word processors
	c. Forms
Changes in behavior and attitudes	d. General overhead (office space, telephone, supplies etc.)
a. Deterrent effects	
b. Improved client attitudes	
c. Improved staff morale	
d. Improved relations with the public	

operate the systems. Those resources fall into two major categories: 1) personnel, and 2) the materials and facilities:

- Personnel costs, in the form of salaries and fringe benefits, are the most important since wage matching systems are typically very labor intensive.
- The materials and facilities costs of wage matching include the following elements: computer and word processor time, special forms, and general overhead (office space, telephones, supplies, and so forth).

Since some potentially important benefits of the wage matching systems were not measured or evaluated, but virtually all the costs were, when benefits exceed a system's measured costs, the system can be considered cost-effective with a high degree of confidence.

Key Aspects of the Research Design

The study concentrated on measuring the cost and benefits of mature wage matching systems--those that had reached a steady-state of operation. This seemed most important since periodic wage matching is now required by law. However, to accurately measure mature systems, the study research design required investigation of first time wage match runs.

The study looked at both "first time" and "steady-state" matching. A first time wage matching run would be expected to have a higher payoff than later rounds of wage matching. Followup investigations of the first run of a new wage matching

system may detect welfare cases that have been receiving overpayments for many years. A mature, steady-state wage matching system, in contrast, would not have this large backlog of longer term cases to draw upon.

To investigate the differences between the benefits of a first time and a subsequent wage match run, the analysis examined different measures of benefits from the first time and the fourth time wage matching was ever conducted in Mercer and Camden Counties in New Jersey. As expected, there were differences between these two rounds of wage matching; the magnitude of these differences was larger than expected. For example, total prevented overpayments in the AFDC, Food Stamp, and Medicaid Programs resulting from the first round of wage matching were four times larger in Mercer County and eight times larger in Camden County than those resulting from the fourth round of wage matching.

The measurement and pattern of overpayment duration in the Food Stamp and AFDC caseloads are key to estimating future overpayments, and consequently critical to estimating savings due to wage matching. The dollar amount of benefits obtained through prevention of future overpayments depends upon the elapsed time from the period covered by the match information (the "match quarter") to the date at which the overpayment is actually discovered. The longer this elapsed time, the fewer the number of in-progress episodes detected and the fewer the months of future overpayments prevented. Some overpayment spells are of

short duration and end before they are detected through a wage match. Wage matching benefits that result from discovering such cases are limited to the restitution of previous overpayments. Longer overpayment episodes detected when the case is still active provide additional benefits in the form of prevented future overpayments.

This report develops an estimate of prevented future overpayments. The calculation builds on the measurement of first and fourth wave matches in New Jersey. An estimate of prevented future overpayments measures the number of additional months of participation a case would have received benefits had the case not been discovered and terminated through wage-matching. Even though this duration is not directly observable, the research design developed a methodology to estimate this value. To do this, the distribution of completed spells of overpayments (a no-match situation) was imputed from the distribution of interrupted (a match situation) spells of overpayments. The resulting statistical model estimated how many months recipients would have continued receiving benefits in a site with ongoing matches if their overpayment receipt had not been interrupted by matching.

CONCLUSIONS

Wage Matching Was Cost-Effective in Diverse Administrative Settings

The study looked at State and county operated systems, the use of specialists or generalists to investigate wage match cases, and other factors. Although each system had favorable results, no one factor or set of factors accounted for the success of the wage match system.

Matching Systems in All States Were Cost-Effective

Wage matching was cost-effective in all of the sites examined. Table 3 summarizes the estimates of total costs and benefits in annual amounts for 1982. In two sites, cost-benefit ratios exceeded 2 to 1. The positive finding of a 2.47 to 1 ratio for San Joaquin County is particularly important since that system is by far the most mature of those examined.

If wage matching were conducted as effectively in all States as in the study sites, combined cost savings for the Food Stamp and AFDC programs could be $100-$200 million annually.

It is not inevitable, however, that every wage matching system will be cost-effective. The analysis was intentionally limited to systems that appeared to be functioning well. For example, the employer-reported data upon which these systems depend,

TABLE 3

ESTIMATED ANNUAL COSTS AND BENEFITS OF WAGE MATCHING IN FOUR SITES

	Total Costs	Total Measured Benefits	Benefit-Cost Ratio
Mercer County	$786,821	$932,958	1.19
Camden County	753,662	1,452,367	1.93
San Joaquin County	308,128	762,355	2.47
State of New Hampshire (DES Wage Crossmatch Project)	264,856	707,316	2.67

although far from ideal, were clearly at least adequate in terms of coverage, information provided, and timeliness. Equally important, the procedures used in the followup process were generally well thought through; adequate resources were available to conduct the followup; and a genuine commitment existed among persons in key supervisory positions. In the absence of such conditions, it is possible that wage matching could prove ineffective.

In addition to comparing the overall costs and benefits of the entire match process, it is also useful to assess the benefit-cost ratio of each of the three components of the wage match process: benefit reduction, restitution, and deterrence. As shown in Table 4, these components are not equally cost-effective, thus indicating areas for improvement. For each of the four study sites, Table 4 indicates the percentage of total costs and benefits that can be attributed to the three wage matching objectives and the ratio of benefits to costs that are associated with two of these objectives. Since it is difficult to allocate costs and benefits among the three objectives accurately, the values reported in Table 4 should be considered rough order of magnitude estimates. Nonetheless, the table implies considerable consistency among the four study sites.

Wage matching is most successful in reducing and terminating overissued benefits. The savings resulting from the pursuit of this goal were at least four times larger than the associated costs. The savings result from reducing or terminating benefits

TABLE 4

COSTS AND BENEFITS ATTRIBUTABLE TO THREE WAGE MATCHING OBJECTIVES

	Mercer County	Camden County	San Joaquin County	New Hampshire[1]
Approximate % of total costs attributable to				
- Grant adjustments and terminations	20	10	20-25	
- Overpayment restitution	30	25	almost 50	70-75
- Fraud investigations and prosecutions	50	60-70	20-30	under 30
Approximate % of total measurable benefits attributable to				
- Grant adjustments and terminations	70	75	70	90
- Overpayment restitution	20-25	20-25	30	10
- Fraud investigations and prosecutions	under 10	2	0	1
Benefit-Cost Ratios				
- Grant adjustments and terminations	around 5	over 10	over 8	at least 4
- Overpayment restitution	around 1	between 1 and 2	about 1.5	probably under 1

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[1] Cost estimates in New Hampshire could not be broken down into costs incurred by grant adjustments and terminations and costs incurred by overpayment restitution.

to a small group of clients who would have continued receiving overissued benefits for a considerable length of time. Even though less than one percent of the cases had a change in benefits due to wage matching, a typical case that does undergo such a change is prevented from receiving excess welfare benefits for approximately one and one-half years. (This estimate is based on the New Jersey site findings.) Since many of these cases would have received overpayments of several hundred dollars each month had their welfare and food stamp grants not been adjusted, relatively few cases need be affected by wage matching before substantial savings are realized.

It is not possible under food stamp regulations to stop all activity at the benefit reduction phase; overpayments need to be documented and recoupment pursued. Restitution of overpayments is less cost-effective than benefit reduction to prevent future overpayments (see Table 4). Restitution does seem worth pursuing, since the amounts of restitution collected appear to exceed the costs incurred for two of the four wage matching systems examined (Camden County and San Joaquin County), and the opposite appears to be true for only one of the systems (New Hampshire). The issue here is not one of whether resources should be expended on restitution efforts, but one of finding ways of increasing the cost-effectiveness of these efforts. For example, agencies could focus on overpayment cases for which the probability of obtaining appreciable amounts of restitution is fairly high.

The measurable benefits resulting from fraud investigations and prosecutions -- savings from temporarily disqualifying individuals from receiving food stamps -- are far exceeded by the costs incurred by these activities. However, this is not a very useful comparison. The return on resources expended on fraud investigations and prosecutions ultimately depends on the extent to which these expenditures can be credited with deterring welfare fraud in the future, a topic about which little is known. Thus, no benefit-cost ratio for fraud investigations and prosecutions is reported in Table 4.

Rapid Processing of Information Nets Additional Benefits.

The benefits of matching can be increased significantly by more rapid processing of raw hits. A raw hit is a first matchup between employer supplied information and client-reported earnings information in welfare agency records. Extensive administrative investigation or cleaning of raw hit lists is needed before adjustment of benefits begins. In any wage matching system there are a number of built-in lags; some time passes after the match period (which is usually a calendar quarter) before raw hit data are available, and more time passes before this information is converted to positive, documented findings of overpayment. The study found that the length of this total lag varied from six months to over a year under different wage matching systems. It is worthwhile considering the potential gains to more rapid processing of raw hits, especially in terms of prevented overpayments, since these benefits

represent such a large proportion of the total benefits of wage matching.

Data from matching in New Jersey suggest that the net returns of more rapid processing may be sizeable as benefits are reduced or terminated more quickly. The benefits from prevented future overpayments would have been about 8 or 9 percent greater in the two counties had the average processing time been just one month shorter, about 17 percent greater had the average processing time been 2 months shorter, and about 26 percent greater had it been 3 months shorter.